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(54) **FLUID ADDITIVE CONTROL VALVE**

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(58) **Field of Classification Search**

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See application file for complete search history.

(56)

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ABSTRACT

A valve arrangement includes various improvements useable in the context of a fluid additive system, such as a water softener. For example, the valve assembly may include a seal assembly engaged by a reciprocating piston, in which the seal assembly includes a minimal number of parts, is easily assembled, and can be easily inserted in the bore of the valve body without jeopardizing the integrity of the seals. The valve assembly may further include a quick-disconnect system which allows a “control head” including a valve actuation system and electronic controls to be disconnected from the rest of the valve arrangement with only a partial rotation of the control head. The valve assembly may also include a venturi used for drawing regeneration fluid into the system, and an associated venturi cleaner system which allows a user to unclog the fluid-flow orifice of the venturi without any disassembly of parts of the valve arrangement.

14 Claims, 20 Drawing Sheets

